

of scale. In the pass itself the mound and the Phocian wall are the only debatable points, and they might have been relegated (if necessary) to a little inset plan. (It is ridiculous, by the way, to treat the pretty story of the Spartans combing their hair as serious evidence for topography or "autopsy"—the other Greeks had to be invisible and the wall was a good excuse for hiding them, that is all!) But the real problems are concerned with the valley of the Asopus, the road into Doris, the site of Trachis and the path Anopæa, about the identification of which we have sometimes felt doubts. There must be a railway survey of the valley somewhere, which would give a base to work from, but Mr. Grundy is here less helpful than M. Hauvette, and does not even elucidate his own text—where, for example, is the Great Gable (p. 302)? Why is not Trachis the same as Heraclea, or its acropolis? What is the point of the polemic against Leake, who seems to have accomplished the not unprecedented feat of riding at six miles an hour? There is a useful note on p. 262 to show that "it seems to have been a recognised principle in later times that an effective defence of Oeta included the occupation of Heraklea as well as of Thermopylæ." But why not in earlier times too? Surely, if topography is worth anything as a test of the narrative of Herodotus, it points here to a serious omission.

Mr. Grundy has perhaps scarcely sufficiently guarded himself against the natural tendency to fix sites and positions on the authority of Herodotus and then triumphantly claim that the evidence of the topography confirms the story. We believe that he is right in his theory as to the "Island" at Platea, but where the identification of so many points is so uncertain we cannot avoid an uncomfortable notion that a turn of the spade may any day undermine his whole construction of the campaign, not to say the narrative of Herodotus itself.

On the other battles of the war Mr. Grundy has little that is new to contribute and scarcely anything of a geographical character. His theory of the campaign of Marathon is essentially Busolt's early view, recently revived by Mr. Munro, of the battle of Salamis a development of Prof. Goodwin's. He scarcely seems to appreciate the full significance of the position at Artemisium, which covers all the landing-places between Tempe and Attica. Aphetæ is a dubious point. It is hard to reconcile Mr. Grundy's situation with the remark of Herodotus, that the wreckage of the first sea-fight drifted *out* to Aphetæ, which is badly misrendered in the words "was thrust in upon the Persian fleet." Mr. Grundy is much put about to find a reason for the Greeks taking the offensive in 479. He concludes that they feared the establishment of a Persian frontier at Cithæron. Obviously the Persians would keep all they could conquer, but why should they stop at Cithæron? and is not the real difficulty the Greek *delay* in taking the offensive after the victory of Salamis had entirely changed the situation?

Where Mr. Grundy has seen with his own eyes he generally has something useful to say, but where he has not seen he cannot always be trusted. It is an absurd exaggeration to call the Taurus an "all but blank impassable wall"; and other references to it would certainly suggest that it runs north and south! The theory of the weak strategic situation of the Asiatic Greeks will not

hold where any communication by sea is so much better than any by land as in western Asia Minor. Was it either land or sea that divided, *e.g.*, Samos and Miletus? For downright geographical nonsense it would be hard to beat the description of Pteria as "a town whose position renders it the chief strategic point in the Halys region, commanding, as it does, the middle portion of the cleft-like valley through which the river flows" (p. 15). Mr. Grundy does not appear conscious of all the difficulties which beset Xerxes' march through Thrace as conceived by Herodotus. They do not harmonise well with his doctrine that the historian had himself traversed the road.

In the early chapters, the author makes great play with the idea of the "Ethnic frontier." As applied to the Persian attacks on Greece this is no novelty; but will it explain the conquest of Thrace? Are Phrygians and Bithynians still to be called Thracians in the days of Darius?

The book is sumptuously got up. It is a pity that so many misprints have been overlooked. Some of these are very unfortunate, *e.g.* banaustic (p. 94), St. Demetrian (three times), Elataea (four times), Oeroe with initial diphthong (always). Xerxes on p. 69 ought to be Darius. On the map of Marathon, Kynossema ought to be Kynosoura. On p. 350, Mr. Grundy has interchanged *east* and *west*—did he "alter his point of view"? On p. 378, a whole paragraph is based on a childish mistranslation of Herodotus.

In conclusion, we must heartily thank Mr. Grundy for publishing the many exquisite sketches by Edward Lear. They are as accurate as they are beautiful, and even had this book no solid merits of its own to recommend it, they would suffice to make it valuable.

#### GEOMETRY ON THE SPHERE.

*Spherical Trigonometry.* By the late I. Todhunter, M.A., F.R.S. Revised by J. G. Leathem, M.A., D.Sc. Pp. xii + 275. (London: Macmillan and Co., Ltd., 1901.) Price 7s. 6d.

THIS volume gives a systematic treatment of the subject of spherical trigonometry, based on the sound foundation of Todhunter rearranged and amplified. While the merit of the original work is sufficiently indicated by its vitality, the preface bearing the date 1859, it is natural that a text-book designed for the use of students forty years ago should to some extent fail to satisfy the requirements of the present day.

The subject falls naturally under two heads, (1) Formulæ connected with the Spherical Triangle and the Solution of Triangles, (2) Spherical Geometry. In both departments the reviser has used skill and judgment in grafting fresh shoots on the old stock, and has produced a homogeneous and well-balanced volume, double the size of the original and worthy to take its place among the best of our modern text-books. In trigonometry proper, Todhunter's treatment has been rendered very full and thorough. The theory is illustrated by well-selected numerical exercises, fully worked out and presented in the most concise form with due attention to labour-saving devices. Critical and ambiguous cases are carefully considered, discussed and illustrated diagrammatically, while

the practical methods and terminology used in navigation receive some notice.

In the department of spherical geometry more extensive additions have been made. New chapters have been added on Properties of the Spherical Triangle, Properties of Circles on the Sphere, The Principle of Duality, Hart's Theorem, The Generalised Triangle, The Application of Determinants to Spherical Geometry, while some additions and modifications have been introduced elsewhere. The chapter on the principle of duality gives an excellent *résumé* of the subject, illustrated by the exhibition in parallel columns of corresponding properties of a co-axial system of circles on the sphere and its dual a co-lunar system. The principle is also utilised in what the reviser styles, in the preface, a new treatment of Sir Andrew Hart's very striking and fertile theorem that the inscribed and escribed circles of a spherical triangle touch a fourth circle besides the three sides of the triangle. The bearings of the principle of duality on Hart's theorem have, however, been already discussed, and Dr. Leathem's treatment does not seem to add much that is essentially novel. The proof of the theorem, as here presented, appears, indeed, to be open to objection; the proof in § 178 of the condition for the contact of a given circle with the circumcircle of a given triangle assumes that the circles have a *real* limiting point L, while in §§ 203 and 204 all that has been proved is that the cone joining the circle H to the centre of the sphere touches, internally or externally, the inscribed and escribed circles of the triangle—an appeal to the particular case of the equilateral triangle, without further discussion, in order to determine the nature of the contacts hardly carries conviction. The plane analogue of this mode of treatment of Hart's theorem may be found in Lachlan's "Modern Pure Geometry," pp. 206 and 250, where also an adaptation to plane geometry of the theory of duality on the sphere is given at p. 257. Needless to say, the subject admits of wide development.

Among the chapters devoted to spherical geometry, one dealing with inversion, stereographic projection, &c., would have been welcome, but it was possibly excluded by want of space.

In the new chapters admirable judgment is displayed in the selection and arrangement of materials from a wide range of original sources, numerous historical and bibliographical references forming an excellent feature of the work. The style throughout is clear and attractive, and most of the examples which have been added possess the merit of elegance and real scientific interest. A. L.

#### A CONSUL IN CHINA.

*John Chinaman and a Few Others.* By E. H. Parker. Pp. xx+380. (London: John Murray, 1901.) Price 8s. net.

THIS is an interesting book of personal reminiscences during a long official residence in China. Mr. Parker served in the consular service for many years at a time when our relations with the Flowery Land were even more precarious and uncertain than they are to-day, and it is interesting to observe how under these conditions, and with Sir Harry Parkes as our Minister at Peking, a

spirit of self-reliance was engendered among all holding authority at the outlying ports. The riots directed against foreigners which are now occasional were chronic in the 'eighties, and Mr. Parker came into a fair share of them. Being ever ready to accept responsibility, he in most cases undertook the defence of his countrymen during the acute stages of the crises, and when the hurly-burly was over arranged with the local authorities for the necessary punishment of offenders and compensation for the destruction of property. As he remarks, after describing a serious outbreak at Wênchou,

"The moral of this story is that Chinese nerves are so constructed that every Mandarin seems to have in him the makings of a murderer or a saviour, accordingly as the tide in the affairs of men is taken at the flood or on the ebb; that rows are seldom so dangerous or so serious as their noise and appearance is (*sic*) appalling; and that a readiness to make allowances for foolish human nature is commonly appreciated at its full value on the Chinese side. The same missionaries had to take refuge on the island once more during the Boxer riots of 1900, but I see that my sensible and accomplished successor has been able to abstract ample compensation in the same friendly spirit as that evinced sixteen years ago. I see no reason why the whole Chinese question should not be treated on analogous lines."

To the principle here involved we entirely agree, but, unfortunately, the whole Chinese question has to be settled, not by one plain-dealing man, but by a dozen plenipotentiaries whose interests are conflicting, and some of whom find in a disturbed China a prospect of the realisation of their best hopes.

Another source of diplomatic difficulty at the present time is the absence of sound statesmanship at Peking. In the 'sixties, as Mr. Parker points out, there were men like Prince Kung, Wên-Hsiang and Kui-Hsiang, who were giants in comparison with the Prince Chings of the present day. Sir Thomas Wade used to call Wên-Hsiang "the last of the Manchus," and it is difficult to point to another of the race who has risen to anything like the same level of wisdom and knowledge.

But Mr. Parker has much to say of the Chinese and their affairs outside the political arena. He mixed more with the natives and gained a better insight into their characteristics and peculiarities than most Chinese-speaking foreigners, with the result that he has much to say in their favour and many strange peculiarities to note. Among the latter he mentions the curious tendency there is among the people to commit suicide.

"Women are the chief delinquents, or heroines, as they often imagine; it only needs a harsh word or a fit of passion, when down goes an ounce of opium—a most comfortable death. It will be noticed that the recent Boxer troubles are responsible for the suicide of at least a score of prominent statesmen. In some cases whole families have dived head foremost into wells in order to share the master's disgrace or self-sacrifice. In others the Emperor has 'bestowed the cord'; which means that a man sits with his back to a panel and his friends strangle him through two holes. So far from being considered a crime, suicide is under many circumstances regarded as a noble act; rarely as a despicable one, unless done in pure spite, or out of revenge."

The position of women in China is well illustrated by the many stories the author has to tell of native life, and the conclusion at which he arrives is that on which all close